What is claimed is:

1. A method for generating hierarchical keys of digital assets, comprising the steps of:

arranging the digital assets as at least one tree structure, a root node of the tree structure representing a complete set of the digital assets, other group nodes representing sub-sets in each level of the digital assets respectively, and the nodes in the lowest level being leaf nodes;

generating the key of the root node; and

starting with the key of the root node, using the key of a father node to compute level by level the keys of its child nodes through to leaf nodes.

2. The method according to claim 1, comprising computing different keys for two nodes having the same father node.

3. The method according to claim 1, comprising computing different keys for child nodes having the same father node.

4. The method according to claim 1, comprising randomly generating the key of the root node.

5. The method according to claim 1, further comprising the step of: encrypting corresponding digital assets by using the computed node keys.

6. The method according to claim 5, encrypting the corresponding digital assets using at least a part of the generated node keys or their deformation.

7. The method according to claim 6 comprising encrypting the digital assets using a cipher, and encrypting the cipher using at least a part of the generated node keys or their deformation, said deformation indicating the result computed from the node keys.

8. The method according to claim 1, wherein the digital assets are chosen from the group consisting of video, audio and text materials.

9. An apparatus for generating hierarchical keys of digital assets, comprising:

a key tree management unit for arranging the digital assets as at least one tree structure for management, a root node of the tree structure representing the complete set of the digital assets, other group nodes representing sub-sets in each level of the digital assets respectively, and the nodes in the lowest level being leaf nodes, said apparatus further comprises:

a root node key generating unit for generating the key of the root node; and

a computing unit for starting with the key of the root node, using the key of a father node to compute level by level the keys of its child nodes according to a predetermined function, through to leaf nodes.

10. The apparatus according to claim 9, adapted for computing the keys of the child node using a one way function.

11. The apparatus according to claim 9, adapted for computing different keys from different keys having the same father node.

12. The apparatus according to claim 9, further comprising an encrypting unit for encrypting the corresponding digital assets by using at least a part of the generated node keys or their deformation.

13. The apparatus according to claim 9, further comprising an encrypting unit for encrypting the digital assets first by using a cipher, and then encrypting the cipher by using at least a part of the generated node keys or their deformation, said deformation indicating

the result computed from the node keys.

14. A server apparatus for managing hierarchical keys of digital assets, comprising:

a key tree management unit for arranging the digital assets as at least one tree structure, a root node of the tree structure representing the complete set of the digital assets, other group nodes representing sub-sets in each level of the digital assets respectively, and the nodes in the lowest level being leaf nodes, said server apparatus further comprises:

a root node key generating unit for generating the key of the root node;

a first computing unit for starting with the key of the root node, using the key of a father node to compute level by level the keys of its child nodes through to leaf nodes; and

an encrypting unit for encrypting corresponding digital assets by using directly or indirectly the computed node keys.

15. The server apparatus according to claim 14, adapted for computing child nodes using a one-way function.

16. The server apparatus according to claim 14, adapted for computing different keys of nodes having the same father node.

17. A client apparatus for utilizing hierarchical keys of digital assets, wherein the digital assets being arranged as at least one tree structure, a root node of the tree structure representing the complete set of the digital assets, other group nodes representing sub-sets in each level of the digital assets respectively, and the nodes in the lowest level being leaf nodes, said client apparatus comprises:

a second computing unit for, based on a node key received from a server apparatus, computing the keys of the nodes in lower levels of said node through to leaf nodes in turn; and

a decrypting unit for decrypting the digital assets contained in all nodes by using the computed keys of all nodes.

18. The client apparatus according to claim 17, adapted for computing the keys of lower level nodes using a one-way function.

19. The client apparatus according to claim 17, adapted for computing different keys of child nodes having the same father node.

20. A program product comprising media having computer readable instructions thereon for directing a computer to perform a process for generating hierarchical keys of digital assets, comprising the steps of:

arranging the digital assets as at least one tree structure, a root node of the tree structure representing a complete set of the digital assets, other group nodes representing sub-sets in each level of the digital assets respectively, and the nodes in the lowest level being leaf nodes;

generating the key of the root node; and

starting with the key of the root node, using the key of a father node to compute level by level the keys of its child nodes through to leaf nodes.

21. The program product according to claim 20, said process comprising computing different keys for two nodes having the same father node.

22. The program product according to claim 20, said process comprising computing different keys for child nodes having the same father node.

23. The program product according to claim 20, said process comprising randomly generating the key of the root node.

24. The program product according to claim 20, said process further comprising the step of: encrypting corresponding digital assets by using the computed node keys.

25. The program product according to claim 24, said process comprising encrypting the corresponding digital assets using at least a part of the generated node keys or their deformation.

26. The program product according to claim 25 said process comprising encrypting the digital assets using a cipher, and encrypting the cipher using at least a part of the generated node keys or their deformation, said deformation indicating the result computed from the node keys.

27. The program product according to claim 20, wherein the digital assets are chosen from the group consisting of video, audio and text materials.